

## Message Text

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41

ACTION INR-07

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FM AMEMBASSY OTTAWA  
TO SECSTATE WASHDC 5496  
INFO AMEMBASSY BONN  
AMEMBASSY LONDON  
AMEMBASSY PARIS  
AMEMBASSY ROME  
AMEMBASSY STOCKHOLM  
AMEMBASSY THE HAGUE  
AMEMBASSY TOKYO

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POUCHED ALL CONSULS IN CANADA

E.O. 11652: N/A

TAGS: PINR, CA

SUBJECT: FOREIGN SMALL EARTH-STATION TECHNOLOGY ASSESSMENT

REF: STATE 282812

1. SUMMARY: THE ONLY CANADIAN SPACE PROGRAM OF A COMMERCIAL NATURE WHICH REQUIRES SMALL EARTH STATIONS IS THAT OF TELESAT CANADA. IN ADDITION, THERE IS A SMALL NUMBER OF MISCELLANEOUS ACTIVITIES ORGANIZED BY GOVERNMENT DEPARTMENTS. U.S. SUBSIDIARIES IN CANADA DOMINATE THE MARKET. ONLY RESEARCH IDENTIFIED RELATES TO IMPROVED MODEMS AND CODEXES. END SUMMARY.

2. TELESAT CANADA, A QUASI CROWN CORPORATION OWNED BY THE GOC AND THE COMMUNICATIONS CARRIERS, IS THE ONLY COMMERCIAL SATELLITE OPERATOR AND USER OF EARTH  
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STATIONS. TO DATE, IT HAS ESTABLISHED TWO SATELLITES

AND HAS 52 EARTH STATIONS IN PLACE. A THIRD SATELLITE WILL BE LAUNCHED FOR TELESAT BY NASA IN MARCH 1975. A FOURTH SATELLITE IS PLANNED FOR 1978 OR 1979. TWENTY ADDITIONAL EARTH STATIONS OF TWELVE FOOT ANTENNA SIZE HAVE JUST BEEN ORDERED, AND TWELVE TO FIFTEEN MORE (PROBABLY OF FIFTEEN FOOT SIZE) WILL BE ORDERED IN NEXT SEVERAL MONTHS. FOR PERIOD 1975-1985 APPROXIMATELY 200 ADDITIONAL STATIONS ARE EXPECTED TO BE PUT INTO SERVICE AT RATE OF TWENTY PER YEAR. NINETY PERCENT OF THESE WILL HAVE ANTENNAS BETWEEN TEN AND TWENTY-SIX FEET IN DIAMETER AND ALL WILL RELATE TO 4-6 GIGAHERTZ BAND.

3. ESTABLISHMENT OF TELESAT IN 1969 WAS INTENDED NOT ONLY PROVIDE SPACE COMMUNICATIONS UNDER NATIONAL CONTROL BUT ALSO TO STIMULATE DEVELOPMENT OF ELECTRONICS INDUSTRY IN CANADA. LEGISLATION CREATING THE CORPORATION REQUIRES THAT EACH PROSPECTIVE PURCHASE BE SUBMITTED FOR APPROVAL TO MINISTER OF COMMUNICATIONS WHO MUST INDICATE THAT HE IS SATISFIED THAT THE REQUEST "BY ITS TERMS, WILL RESULT IN PROPOSALS THAT SPECIFY A REASONABLE UTILIZATION OF CANADIAN DESIGN AND ENGINEERING SKILLS AND THE INCORPORATION OF AN APPROPRIATE PROPORTION OF CANADIAN COMPONENTS AND MATERIALS." (TELESAT CANADA ACT, 1968-69, SECTION 8.) ACTUAL CONTRACTS MUST ALSO BE APPROVED IN RELATION TO THIS STANDARD. A SENIOR CORPORATE OFFICIAL HAS ADVISED TCO THAT NO REGULATIONS SPELLING OUT ACCEPTABLE CANADIAN CONTENT HAVE BEEN PUBLISHED, BUT SIXTY PERCENT APPEARS TO BE THE GUIDELINE EMPLOYED BY THE MINISTER. IN PRACTICE, HOWEVER, MOST CONTRACTS INVOLVE 70-75 PERCENT CANADIAN CONTENT ON THE INITIATIVE OF THE MANUFACTURERS THEMSELVES. HOWEVER, AT LEAST ONE CONTRACT FOR AN EARTH STATION HAS BEEN ISSUED WITH MINISTERIAL APPROVAL IN WHICH THE CANADIAN CONTENT WAS AS LOW AS TWENTY PERCENT.

4. WITHIN THE FRAMEWORK OF CANADIAN CONTENT, TOTAL COST OF SYSTEM AND POST-PURCHASE SERVICE/MAINTENANCE, OUR SOURCE ADVISED, ARE MOST IMPORTANT FACTORS IN DECISIONS TO ACCEPT BIDS FOR EARTH STATIONS. DELIVERY SCHEDULE, UNCLASSIFIED

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TECHNICAL PERFORMANCE, AND RELIABILITY/MAINTAINABILITY ARE CLOSELY RELATED TO THESE, BUT FINANCIAL, POLITICAL AND MACRO-ECONOMIC CONSIDERATIONS, OUR SOURCE MAINTAINED, DO NOT GET INTO THE EQUATION AT ALL SO FAR AS EITHER TELESAT OR GOC IS CONCERNED.

5. WHENEVER TELESAT IS ABOUT TO PROCURE EARTH STATIONS OR OTHER HARDWARE, DETAILED SPECIFICATIONS ARE SENT

OUT WORLDWIDE TO ABOUT 60 PROSPECTIVE SUPPLIERS, INCLUDING ALL U.S. MAJOR FIRMS IN FIELD, BUT IN PRACTICE RESPONSES HAVE ONLY COME FROM CANADIAN COMPANIES (WHICH, OF COURSE, ARE SUBSIDIARIES OR HAVE OTHER ASSOCIATIONS WITH U.S. AND THIRD COUNTRY FIRMS). MAJOR SUPPLIER HAS BEEN RCA CANADA LTD. WHICH HAS BEEN PRIME CONTRACTOR FOR ABOUT \$35 MILLION IN CANADIAN EARTH STATION BUSINESS TO DATE (INCLUDING THAT DONE WITH CANADIAN OVERSEAS TELECOMMUNICATION CORPORATION, DESIGNEE FOR INTELSAT.) THIS FIRM HAS ALSO DONE ABOUT THE SAME AMOUNT OF BUSINESS ABROAD (LARGELY IN SUPPLY OF INTELSAT STATIONS TO PEOPLES REPUBLIC OF CHINA). OTHER PRINCIPAL SUPPLIERS (LARGELY AS SUB-CONTRACTORS) ARE NORTHERN ELECTRIC COMPANY LIMITED (MONTREAL, QUEBEC), RAYTHEON (CANADA) LTD. (WATERLOO, ONTARIO) AND SED LTD. (AFFILIATE OF UNIVERSITY OF SASKATCHEWAN AT SASKATOON). TO A LESSER EXTENT CANADIAN MARCONI COMPANY (MONTREAL, QUEBEC) AND CANADIAN GENERAL ELECTRIC COMPANY LIMITED (TORONTO, ONTARIO) HAVE BEEN INVOLVED. ALL THESE FIRMS, PLUS BELL-NORTHERN RESEARCH LTD. (OTTAWA, ONTARIO) ARE ALSO ENGAGED IN RESEARCH INVOLVING IMPROVEMENTS TO EARTH STATION TECHNOLOGY.

6. IN ADDITION TO TELESAT THERE ARE A LIMITED NUMBER OF DIRECT GOVERNMENTAL PROGRAMS WHICH REQUIRE OR WILL REQUIRE EARTH STATIONS.

7. ACCORDING TO SENIOR DEPARTMENT OF COMMUNICATIONS OFFICIAL CONCERNED, THE COMMUNICATIONS SATELLITE PROGRAM, A JOINT UNDERTAKING WITH NASA, IS THE MAJOR GOVERNMENTAL EFFORT IN THIS AREA. THIS SATELLITE WILL BE LAUNCHED IN DECEMBER 1975 AND TRANSMISSION UNCLASSIFIED

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TIME WILL BE SHARED EQUALLY WITH NASA. IT IS A ONE-SHOT EXPERIMENTAL EFFORT WHICH, AFTER EVALUATION OF RESULTS, MAY LEAD TO A MORE EXTENSIVE DIRECT BROADCASTING PROGRAM IN THE 1980'S. TWENTY EARTH STATIONS (OF THREE-FOOT, EIGHT-FOOT AND TEN-FOOT DIAMETERS, RELATING TO THE 12-14 GIGAHERTZ BAND) ARE CURRENTLY ON ORDER FOR THE CANADIAN PORTION OF THE JOINT PROGRAM. IT IS TOO EARLY TO FORECAST WHAT WILL BE EARTH STATION REQUIREMENTS FOR THE FUTURE PROGRAM IF IT IS UNDERTAKEN.

8. CANADA IS ALSO A PARTICIPANT IN THE U.S. -EUROPEAN AEROSAT EXPERIMENTAL PROGRAM AND WILL ORDER ONE STANDARD EARTH STATION WITH THIRTY-FOOT ANTENNA. SHOULD THE PROPOSED INMARSAT PROGRAM DEVELOP IN A MANNER

SATISFACTORY TO CANADA IT IS ANTICIPATED THAT THE GOC WILL ADHERE, AND MAY ORDER ONE OR MORE EARTH STATIONS OF THE APPROPRIATE SIZE. FINALLY, CANADA HAS BEEN AVAILING ITSELF OF THE AVAILABILITY OF DATA FROM THE U.S. EARTH TECHNOLOGY SATELLITE (ERTS) PROGRAM AND HAS JUST ORDERED A SECOND STATION TO OBTAIN COVERAGE OF EASTERN AREAS. NO MORE ARE ENVISAGED.

9. SUPPLIERS OF EARTH STATIONS FOR THESE GOVERNMENT PROGRAMS TO DATE HAVE BEEN PRIMARILY RAYTHEON (CANADA) LTD., RCA (CANADA) LTD. AND, TO A MINOR EXTENT, SED LTD. THREE MAIN CRITERIA IN EVALUATING BIDS ARE PRICE, PERFORMANCE AND DEGREE OF CANADIAN CONTENT. BIDS HAVE BEEN SOUGHT ON GLOBAL BASIS, BUT IN PRACTICE HAVE COME ONLY FROM CANADIAN SUBSIDIARIES OF U.S. MANUFACTURERS AND GENERALLY INVOLVE 60-80 PERCENT CANADIAN CONTENT.

10. RESEARCH IN CANADA ON EARTH STATION TECHNOLOGY IS LIMITED, ACCORDING TO OUR SOURCES. THE DOC COMMUNICATIONS RESEARCH CENTRE AT SHIRLEY BAY, ONTARIO, HAS A PROGRAM TO DEVELOP IMPROVED MODEMS AND CODEXES WHICH WOULD REDUCE CONSTRUCTION COSTS OF STATIONS. THIS IS AN ONGOING EFFORT WITHOUT A SPECIFIC TARGET DATE. RCA, RAYTHEON AND OTHER MANUFACTURERS ARE BELIEVED TO HAVE SOME STUDIES OF THEIR OWN UNDERWAY, BUT WE WERE INFORMED NO CENTRAL DIRECTORY OF THIS WORK HAS BEEN  
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COMPILED. RESEARCH BY THE U.S. SUBSIDIARIES IN CANADA ARE REALLY PART OF THE GENERAL RESEARCH GRANTS IN RETURN FOR COMMITMENTS TO UNDERTAKE IN CANADA ANY SUBSEQUENT MANUFACTURING ARISING THEREFROM.

11. COMMENT: EMPHASIS ON CANADIAN CONTENT IN PROCUREMENT OF EARTH STATIONS IS CONSISTENT WITH GENERAL GOC INDUSTRIAL POLICY. SHOULD ELABORATION OF THIS POLICY BE REQUIRED EMBASSY SUGGESTS AUTHORS OF THIS STUDY CONSULT DEPARTMENT OF COMMERCE (ROBERT HAMERSCHLAG, DIRECTOR, CANADA-WESTERN EUROPE STAFF, OFFICE OF TRADE POLICY).

12. EMBASSY HAS OBTAINED SOME LITERATURE WHICH WILL BE HELPFUL TO AUTHOR OF OTP STUDY. PLEASE PROVIDE ADDRESS TO WHICH IT SHOULD BE POUCHED.  
PORTER

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